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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,935	12/22/2003	Mark Greg Steele	146712019300	9004

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SEAGATE TECHNOLOGY c/o MOFO NOVA  
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MCLEAN, VA 22102

EXAMINER
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SMITH, NICHOLAS A

ART UNIT	PAPER NUMBER
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1742

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/28/2006	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/743,935

Applicant(s)

STEELE ET AL.

Examiner

Nicholas A. Smith

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1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 13 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 13 and 18-20 is/are rejected.
- 7) ☒ Claim(s) 2-12 and 14-17 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### Status of Claims

1. Claims 1-20 remain for examination.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 13 and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Kindwall et al.

4. In regards to claim 1, Kindwall et al. discloses (Figure 2, col. 6, lines 8-65):

- a system comprising a workpiece holder (15) having a workpiece surface (31) configured to couple to the workpiece in response to a negative pressure being applied to a vacuum reservoir (19) to provide a seal between a workpiece (col. 6, lines 44-45) and the workpiece surface (31);
- a vacuum reservoir (19) disposed within the workpiece holder (15) having a proximal end capable of being removably coupled to the workpiece; and
- a piston (13) configured to move upward in the vacuum reservoir (19) towards the workpiece and to lift the workpiece off of the workpiece surface (31) in response to a positive pressure (45) being applied to the system (col. 6, lines 25-35).

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5. In regards to claim 1 limitation "for electrochemical machining," this is intended use of the apparatus and therefore does not distinguish it from the prior art. See MPEP 2114.
6. In regards to claim 13, Kindwall et al. discloses (Fig. 2, col. 6, lines 8-65):
  - method for holding and releasing a workpiece (col. 6, lines 44-45 and Fig. 2)
  - applying a negative pressure to a vacuum reservoir (19) to produce an air flow through the vacuum reservoir (19);
  - loading the workpiece (col. 6, lines 44-45) onto a workpiece surface (31) to couple the workpiece to a proximal end of the vacuum reservoir (top of 19);
  - forming a seal between the workpiece and the workpiece surface (31) to produce a pressure drop across the workpiece (col. 6, lines 44-55);
  - applying a positive pressure to the vacuum reservoir (19), which occurs while vacuum reservoir (19) is not under vacuum (pressure greater than zero); and
  - lifting the workpiece off of the workpiece surface (31) by a piston (13) configured to move upward in the vacuum reservoir (19).
7. In regards to claim 13 limitation "for electrochemical machining," this is intended use of the claimed workpiece and does not provide an active step and therefore does not distinguish from the prior art.
8. In regards to claim 18, Kindwall et al. discloses (Figure 2, col. 6, lines 8-65):
  - means for applying a negative pressure to a vacuum reservoir (19) to produce an air flow (col. 6, lines 36-43);

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-means for loading the workpiece onto a workpiece surface (31) to couple the workpiece to a proximal end of the vacuum reservoir (top of 19) (col. 6, lines 5-43);

--means for forming a seal between the workpiece and the workpiece surface (31) to produce a pressure drop across the workpiece (col. 6, lines 44-48);

means for applying a positive pressure to vacuum reservoir (19) which occurs while vacuum reservoir (19) is not under vacuum (pressure greater than zero); and

-a piston (13) configured to move upward in the vacuum reservoir (19) to lift the workpiece off of the workpiece surface (31).

9. In regards to claim 18 limitation "for electrochemical machining," this is intended use of the apparatus and therefore does not distinguish it from the prior art. See MPEP 2114.

***Claim Rejections - 35 USC § 103***

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kindwall et al. in regards to claim 19 above, and in view of Yoshida et al. (US 6,320,661).

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12. In regards to claim 19, Kindwall et al. discloses a gap (open space above **31** and workpiece) above a workpiece surface (**31**), and such a gap is capable of being a machining gap.

13. In regards to claim 19, Kindwall et al. does not specifically disclose a means for providing a conductive electrolyte to a machining gap to impose a pattern on the workpiece.

14. Yoshida et al. pertains to optical measurements of samples and is thus the same field of endeavor as Kindwall et al. Yoshida et al. discloses cleaning a sample with isopropyl alcohol (IPA) and/or high-grade pure water (col. 13, line 66 to col. 14, line 7). Delivery of such fluid would require means for fluid delivery, thus any conduit capable of holding such fluids is taught. It would have been obvious to one of ordinary skill in the art at the time of invention to modify Kindwall et al.'s system with Yoshida et al.'s means for fluid delivery in order to obtain a clean sample and an accurately calibrated measurement (Yoshida et al., col. 13, line 49 to col. 14, line 47). A means for fluid delivery would be capable of delivering conductive electrolyte and therefore meets the claimed limitation.

15. In regards to claim 19 limitation "to impose a pattern on the workpiece" is intended use and therefore does not distinguish it from the prior art. See MPEP 2114.

16. In regards to claim 20, Kindwall et al. discloses a means for coupling (**45**, col. 6, lines 8-65) the workpiece to an ejector pin (**11**). While ejector pin (**11**) appears oblique in Fig. 2, a pin is any small surface. Kindwall et al. discloses that such a surface is small (col. 5, lines 1-4).

***Response to Arguments***

17. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

***Allowable Subject Matter***

18. Claims 2-12 and 14-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

19. The following is an examiner's statement of reasons for allowance: Claim 2 (if rewritten in independent form) is allowable in that prior art does not teach, disclose or suggest such a substrate holding system as claimed that has a piston configured to move upward in a vacuum reservoir and also includes an electrode disposed above the workpiece by a machining gap as claimed. Claims 3-12 are dependent on claim 2.

20. Claim 14 (if rewritten in independent form) is allowable in that prior art does not teach, disclose or suggest a method of holding and releasing a workpiece as claimed that includes lifting the workpiece off of the workpiece surface by a piston configured to move upward in a vacuum reservoir in combination with providing a conductive electrolyte to a machining gap as claimed. Claims 15-17 are dependent on claim 14.

21. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Conclusion***

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22. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

23. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas A. Smith whose telephone number is (571)-272-8760. The examiner can normally be reached on 8:30 AM to 5:00 PM, Monday through Friday.

25. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571)-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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26. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NAS

ROY KING  
SUPERVISORY PATENT EXAMINER  
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